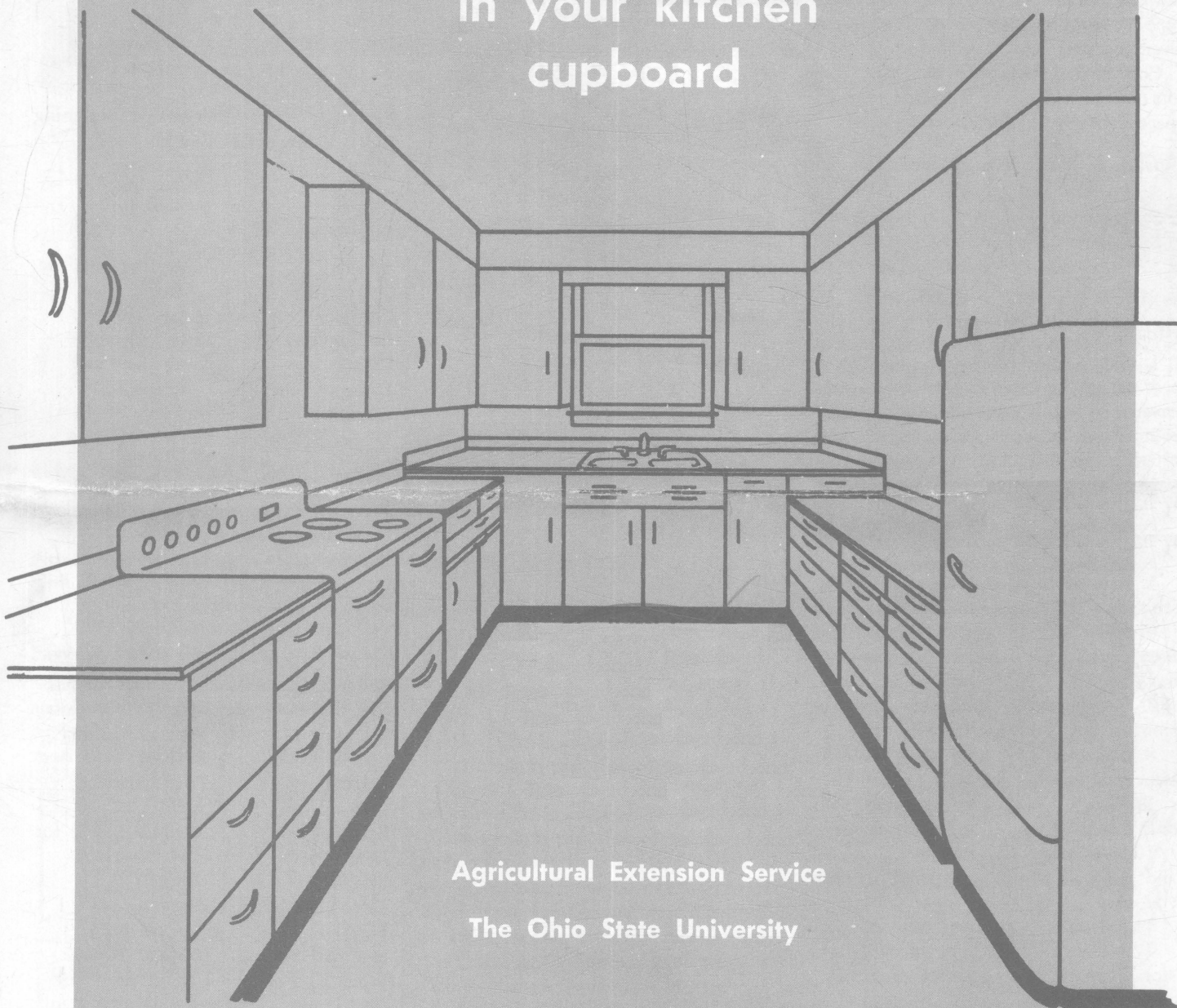


# More Space in your kitchen cupboard



Agricultural Extension Service  
The Ohio State University

# More Space in Your Kitchen Cupboard

by Thelma Beall

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ARE you all "tuckered out" from stooping, stretching, and stepping about your kitchen all day? Do the "ups and downs" of getting dishes, utensils and supplies from inconvenient storage places wear you out?

Convenient cupboards can save you lots of time and energy. Plan better use of space inside your kitchen cupboards.

## Storage in the Right Place:

- Saves time
- Saves stooping
- Saves stretching
- Saves steps
- Saves you!

## Guideposts for Kitchen Storage

1. Check to see if you're making the best use of the cupboard space you now have.
2. Get rid of any and all utensils and supplies you don't use.
3. Store utensils, dishes and supplies at places where you first use them.
4. Store together the things you use together.
5. Use the easy-to-reach and easy-to-see spaces for things you use most often.
6. Place utensils, dishes, cutlery and food supplies so that you don't need to move one to get another.
7. Put only like kinds of things in front of each other on a shelf.
8. Stack together only things of the same size and kind.
9. Plan to keep on the same shelf only things of about the same height.
10. Use your measuring stick, pencil and paper to fit storage space to things you store.
11. Make storage space easy to clean.
12. Keep in mind that you will need storage space for any future purchases.

## Put Storage Where You Need It

REMEMBER that you carry on kitchen work at these places: mixing center, sink, range and serving center.

Each of these calls for storage and counter space; for example, the refrigerator, often next to the mixing counter, provides some food storage space. In turn,



Fig. 1 Mixing Center. Store at the mixing center the utensils and supplies which you use there.

it's convenient to have nearby storage for containers for refrigerated foods. The dishes you use at the meal table can be stored near it or at the sink and those on which you serve hot foods can be stored at the range center.

## Store Utensils and Supplies Where You Use Them First

Here are guides to help you plan for storing things where you use them. Not all women work alike. You'll want to vary these combinations to fit your needs. A storage place may serve more than one work area in some kitchens. On the other hand, you may need to have duplicates of some utensils and supplies at more than one center.

### Mixing Center

Baking powder	Chocolate
Beater and mixer	Cookie sheets
Biscuit & cookie cutters	Custard cups
Bread board	Cutting board
Bread pans	Flavorings
Cake coolers	Flour
Cake pans	Flour sifter
Casseroles	Graters
	Grinder

Knives	Rolling pin
Meal	Soda
Measuring cups	Spatula
Measuring spoons	Spices
Mixes	Sugar
Mixing bowls	Tablespoons
Mixing spoons	Teaspoons
Pastry blender	Tray
Pie pans	Vegetable shortening
Refrigerator dishes	Vinegar
Roasting pans	Wax paper

### Sink Center

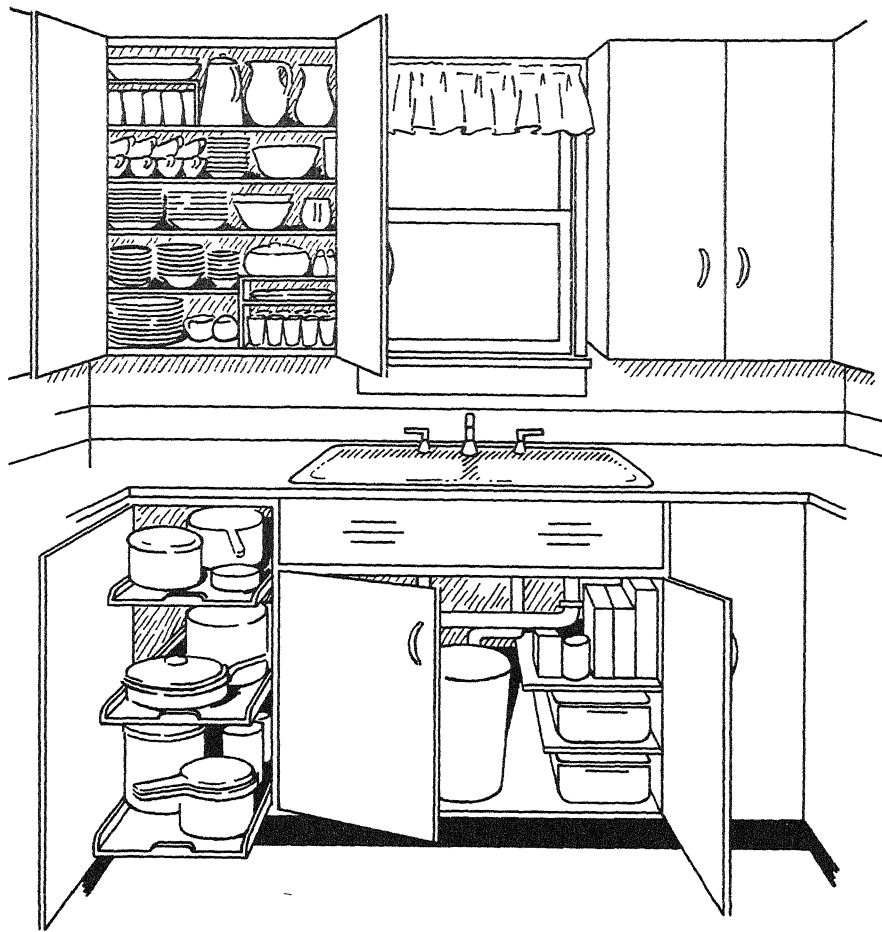
Aprons	Measuring cup for liquid
Can opener	Paring knives
Colander	Root vegetables
Cutting board	Sauce pans and kettles
Dishes	Scissors
Dish washing utensils	Sieve
Dried foods that need to be washed or soaked	Sink strainer
Foods that need to have water added	Soap & cleaners
Funnel	Towels & dish cloths
Garbage container	Teakettle
	Trash basket
	Vegetable brush

### Range Center

Canned vegetables	Measuring spoons
Can opener	Meat slicing knife
Coffee	Pancake turner
Coffee maker	Pepper
Cook forks	Potato masher
Cook spoons	Salt
Cutting board	Serving dishes for hot foods
Cereals to be cooked	Skillets
Double boiler	Tea
Flour	Teapot
Hot pan holders	Tasting spoons
Lids	

### Serving Center

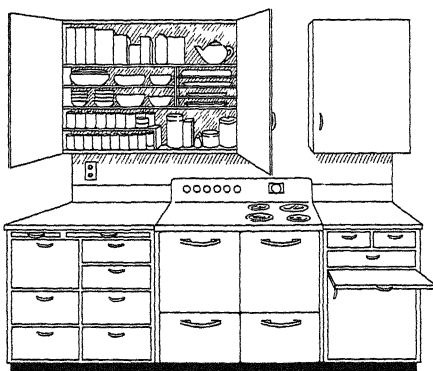
Bread board	Dishes for ready-to-serve foods
Bread box	Pickles, spreads, etc.
Bread knife	Ready-to-serve cereals
Cookies	Serving trays
Crackers	



**Fig. 2 Sink Center.** Most right-handed workers like to store dishes at left of the sink for quick putting away after washing. Utensils used for cooking vegetables are kept here, too, as well as dish washing supplies.

#### Easy-To-Reach Storage

Too much lifting, stretching, stooping and bending make you tired. Plan your cupboard space so you can store your most used supplies and utensils within

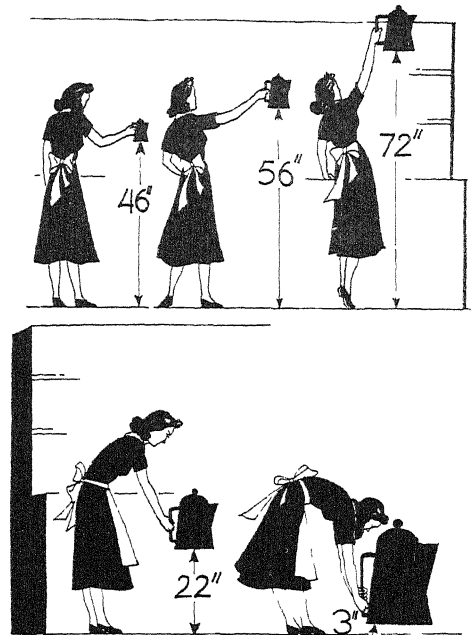


**Fig. 3 Range and Serving Center.** Keep at this place ready-to-eat foods, dishes for serving these and for serving hot foods, too. Utensils used first at the range and staples for seasoning cooked foods belong here.

your easiest-to-reach and easiest-to-see areas.

You can find your easy-to-reach distances by doing this—face the wall, and stand about a foot away from it; move your arm freely from the shoulder so your hand makes a large circle in front of you. Bend your fingers as if you were reaching for a dish. Have someone make a pencil dot at the highest point you reach, and then at the lowest one as your hand comes back to your side. These dots will tell you where you can reach from your shoulder to your highest shelf, and how far below the counter you can reach easily. The sides of the circle show your easy sidewise reach for work space and storage.

Your most comfortable reach is your elbow reach. It's easy on your upper arm and shoulder muscles. To find your elbow reach, stand as you did for your shoulder reach but move your arm only from your elbow. This smaller circle tells you where to store the things you use most often.



**Fig. 4** Reaching to different distances requires different amounts of energy. a. Reaching up to 46" from floor takes least energy for this woman who is about 5'3" tall. b. Reaching to 56" requires two times as much energy. c. Reaching to 72" requires four times as much energy. **Fig. 5** a. Bending to reach 22" above floor requires four and one-half times as much energy. b. Bending to reach 3" above floor requires more than eleven times as much energy.



**Fig. 6** Determine your easy-to-reach areas by making imaginary circles in front of you as you stand one foot in front of the wall you are facing. Use one arm at a time.

## How High Should Work Counters Be?

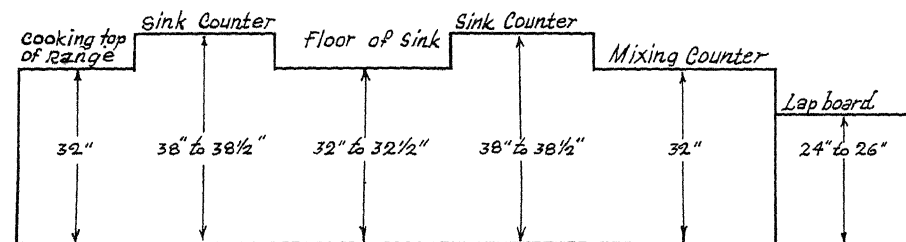
**W**HEN you are thinking about storage spaces you'll want to consider heights of your work surfaces too.

The most comfortable height of mixing counter for many women is 32 inches. If you are of average height you may like the cooking top of your range at 32 inches and the floor of the sink 32 1/2 inches from the floor of the room. For a sink that is 6 inches deep, the drainboards or sink counter would be 38 1/2 inches from the floor—too high for mixing but satisfactory for stacking dishes and preparation of vegetables. A sink 8 inches deep would mean the sink counter would be about 40 inches high. But if you keep the counters at 38 1/2 inches in the case of the deeper sink then you are going to be bending when you work at the sink bowl; this can make your back and shoulders very tired.

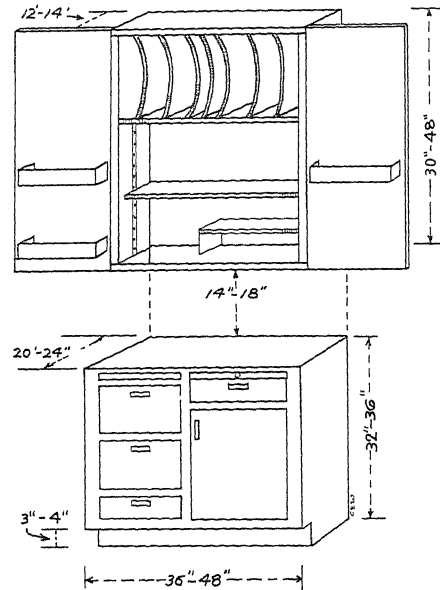
If mixing counter, range and the floor of sink are at about the same level you will not have a "streamlined" kitchen because of the high drainboards, but you will have a comfortable kitchen which can be attractive too. When counter, range and drainboards are of the same height they are usually placed 35 to 36 inches from the floor.

You can find your most comfortable work heights by trying different jobs on surfaces at varying distances from the floor. You may start with a card table. Raise the work by adding books or magazines till you find the most comfortable height.

You can see from the "ups and downs" of the work areas that there will be a little less space for storage under the mixing counter, floor of sink and range top than under the drainboards because of the shorter distances to the floor.



**Fig. 7 Ups and downs of kitchen work surfaces.** These suggested work heights indicated are only averages; comfortable heights depend upon your arm length, body proportions and height. Determine the heights which are best for you.



**Fig. 8 Suggested Dimensions for Mixing Cabinet.**

### Storage at Your Work Centers

Dimensions and space arrangements of storage will vary with:

- Space you have in the cupboard
- Location of the cupboard
- Things to be used at the cupboard location
- Things to be stored
- You! And the way you work.

Storage at other centers may be similar to that at mixing center but varied in size and interior arrangement to fit your needs and the various heights at sink, range and serving centers. See page 3 for arrangements and page 8 for suggested dimensions.

If you often prepare large amounts of food you may need storage in addition to that at the mixing center. The floor-to-ceiling type cupboard provides extra space. You might locate it away from the mixing cupboard if you don't use it daily.

This type cupboard may solve your storage problem if you have many electrical "mobile" appliances, such as deep fat fryer, skillet, roaster, grill and waffle iron and coffee maker. You'll like having the heavy-to-lift ones as near as possible at work counter level where you use them but not higher than such a surface. To keep them where they are to be used would be most convenient but this requires counter space. If you're considering buying any "mobile" appliance, one of the things to think through is "where will I put it when I get it?"

### Make Storage Space To Fit

Most cupboards have waste space because shelves are too far apart. You can whip this problem with adjustable shelves or set-in shelves.

You can move adjustable shelves up and down to different levels to suit the heights of articles to be stored. If shelves are too few and far between, put in more! Hold them in place by using corner supports or by using cleats along the inside walls of the cupboard.

You can make set-in shelves to fit the things you'll store on them. They may or may not be made the full length of the cupboard.

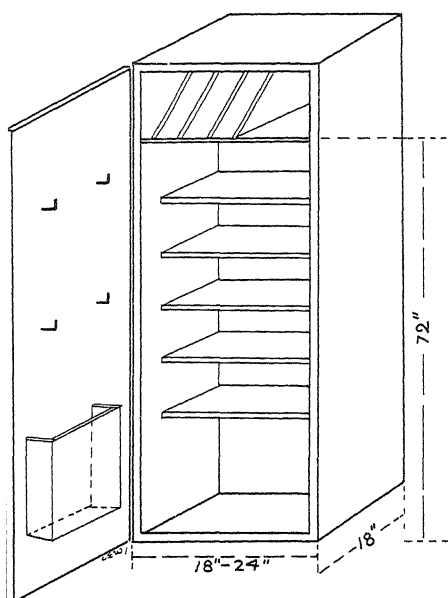
Here's an easy way to determine distances between shelves whether they're stationary, adjustable or set-in ones.

1. Cut pieces of paper the length and width of the inside of the cupboard.
2. Arrange on these papers the supplies, utensils, or dishes to be stored. You want only like articles stacked together or in front of each other. This system allows you to reach anything without lifting or shifting other items. Plan to store the most often used things on the easiest-to-reach shelves.
3. Keep things of the same height on a shelf. This avoids waste space above low articles stored with tall ones.
4. Measure the height of the tallest article or stack of articles that are on each paper; allow one or 2 inches above them for clearance. This will be the distance you need between that shelf and the next. If you put things of the same height on a shelf you will not waste space above the low ones.
5. Distance between all shelves does not need to be the same.

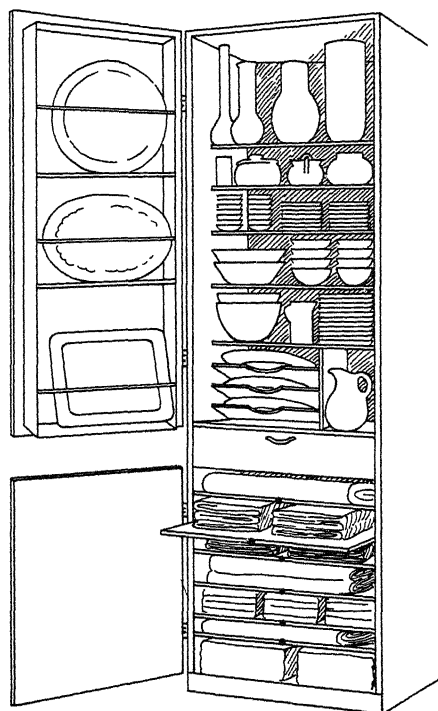


## Space Savers Can Double Your Shelf Area

Set-In-Shelves are quick and easy to make after you determine the sizes you'll need. Screw or nail together. The shelves



**Fig. 9 Floor-to-ceiling type cupboards.** a. This type cupboard for supplementary storage of food supplies and utensils. b. This cupboard for dishes and linens. Note the slanting file in lower shelf is for platters too large to set flat on shelf. Pull-out shelves in lower section can be placed so that different sets of linens do not need to be stacked together.



may vary in thickness from  $1/4''$  to  $7/8''$ , depending upon shelf area and the weight they are to hold. For stacks of dishes make shelves and end pieces of about  $3/4''$  material.

The depth of set-in-shelves will vary from about  $3''$  to  $10''$ ; the heights of end pieces will vary with heights of things to be stored under the set-in-shelf.

### Multiple Set-In-Shelves For Odd Dishes

Where space is quite limited you might use as many as two or three short set-in-shelves between full-length ones to store things that do not seem to fit with other articles.

### Step Shelves

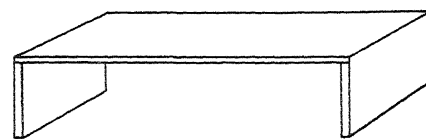
These go between shelves in the upper cupboard and may be made of a size to store single rows of spice cans or other small articles. Make treads and risers of material about  $3/16''$  thick and ends about  $3/8''$  thick.

The width of the tread and height of the riser will vary with the size of articles you want to keep on the step-shelf. If, for example, you want to store small spice cans on the step-shelf, make the tread the same distance from front to back as the distance across the front of the spice container. Then place the spice cans on the shelf with their wide surfaces from front to back and so get more on a shelf. Make the risers as high as the containers so you can move each article without interference.

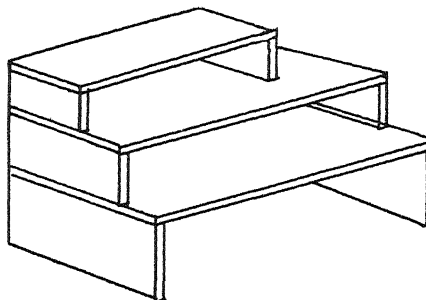
### Door Rack for Spices and Small Packages

A cupboard door with inside racks will close without interference if the cupboard shelf doesn't extend all the way from back to front of the cupboard. If the shelves do come all the way to the front, you'll need to watch in placing articles on the shelves and in spacing racks to avoid interference. A practical depth of rack is about  $3''$ . A narrow wood or metal strip or a screen door spring across the front of the rack and about  $1''$  from the bottom of the rack holds boxes in, but allows you to clean easily and to see the box labels.

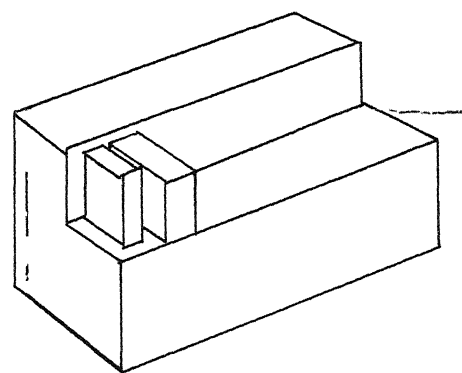
If racks on cupboard doors are to carry much weight the door hinges must be strong enough to prevent sagging.



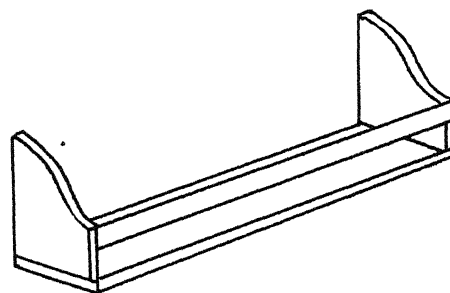
**Fig. 10 Set-in shelf.** You can make these of varying lengths, widths, and heights to slip between full-length cupboard shelves.



**Fig. 11 Multiple set-in shelf for storing odd dishes in limited space.**

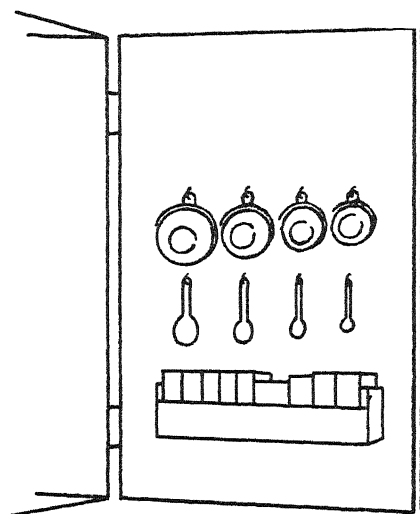


**Fig. 12 Step shelves for spice boxes and other small containers.**



**Fig. 13 Racks on the inside of a cupboard door can help you have things within easy reach.** If shelves in such a cupboard do not come all the way to the front, racks will not interfere.

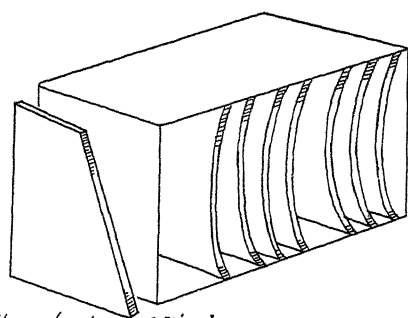
Measuring spoons and cups that hang inside cupboard doors are easy to see and reach. Remove the ring from the spoons so they can be hung and used separately.



**Fig. 14 Graduated measuring cups and spoons are easy to reach if hung on door.**

#### Pan File with Dividers

Use a pan file for storage on edge: platters, trays, lids, pie, cake and muffin pans. You can reach any one you want without shuffling the others. Good places for a file are in the upper cupboard, in a deep drawer or in the cupboard below the work counter. Slip dividers into grooves at top and bottom of the shelf, or in the "box" to be set between shelves. Space the grooves about every 2" to allow easy adjustment for size of spaces and for easy cleaning.



*Alternate shape of Divider .*

**Fig. 15 File for pans.**

#### Pull-Out Shelf or Sliding Shelves

Moveable shelves below the work counter are much easier to use than stationary ones. This applies to the space

at the floor of the cupboard as well as to the shelves above it. A handhold at the front of the shelf (see arrow) helps you to pull it out easily. Provide a stop or catch to prevent the shelf from coming all the way out.

### Other Pointers On Storage

#### Drawer Spaces

Drawers are usually more desirable and easier to use than shelves in base cabinets. However, they are more expensive.

Put shelves and drawers in separate tiers, if possible.

Any drawer, to be satisfactory, must slide in and out easily. Glides with rollers or ball bearing extension slides are good to carry a heavily loaded drawer.

A lip around the drawer edge will help keep out dust and to keep it from sliding in too far.

The back of a drawer should be  $\frac{3}{4}$ " higher than the sides to prevent it pulling all the way out when in use.

Avoid wide spaces between any two drawers.

You use the bread drawer many times a day. Put it toward the top of the tier.

Removable metal liners are satisfactory in drawers used for storing cake, bread, flour and sugar.

Plan drawer spaces as you plan shelf space—for the things you'll store in them, for one layer of cooking tools, for example. Drawer depths therefore may vary considerably.

You can make a very deep drawer more usable by fitting it with a sliding tray or "drawer-in-a-drawer." It helps you to avoid stacking unlike things together.

A deep drawer may be fitted with file dividers similar to those used on a shelf.

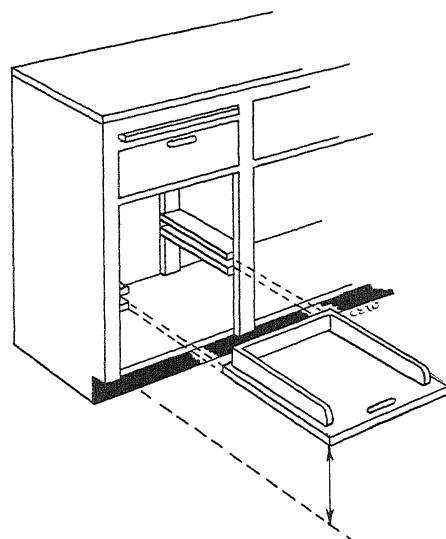
Fit a shallow drawer with dividers or partitions wherever they're needed to keep small tools in place.

#### Drawer Partitions

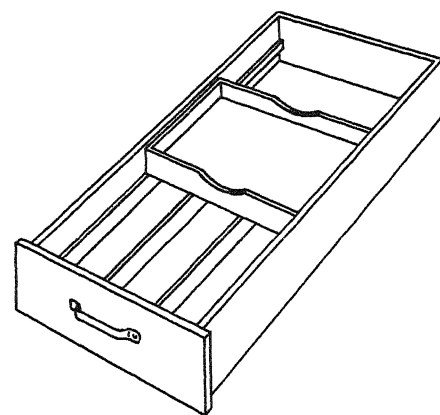
These save time and space because they prevent clutter in storing flat silver, cutlery and small mixing utensils. Make partitions to fit articles you wish to store and make them removable for easy cleaning.

Here's an easy way to measure for partitions:

1. Cut a piece of paper the length and width of the drawer.



**Fig. 16 Sliding shelf.**

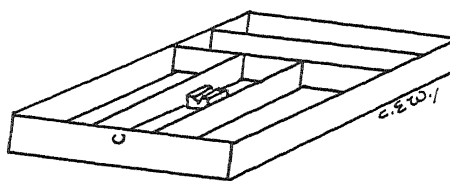


**Fig. 17 A sliding tray in a deep drawer.**



**Fig. 18 Deep drawer with dividers.**

2. Lay on it the things you plan to store, keep together those of same length
3. Place toward the front the articles you use often
4. Line off drawer divisions with pencil and ruler to fit articles
5. Allow for thickness of the light-weight wood you use for partitions or dividers
6. Glue and fasten the partitions together with brads.



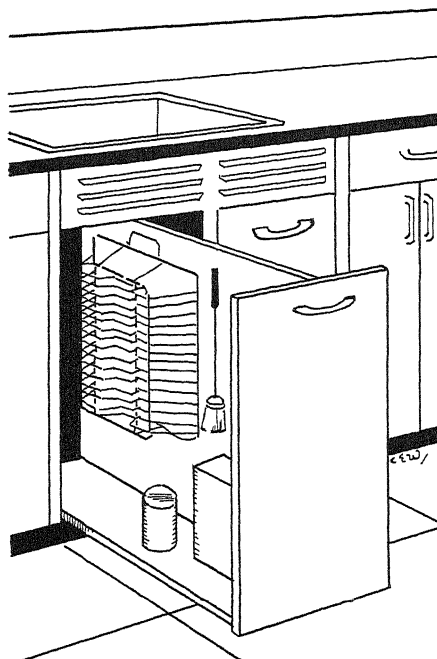
**Fig. 19 Shallow drawer partitioned to keep small tools in place.**

### Bins

Some cabinet manufacturers sell metal flour and sugar bins which can be fastened in the upper cupboard.

### Pull-Out-Panel or "Drawer-on-Edge"

This type of storage under a counter provides usable space for hanging utensils, or the pull-out can be made with a set of shelves on which you can store articles. Make the panel so it moves easily like a drawer and support it so that it clears the floor.



**Fig. 20 Pull-out panel for hanging utensils**

### Peg Board

If you like to hang many utensils in the open you may like to use a peg board. Make it of strong, washable, perforated board. You can use strong hooks in the holes for hanging many types of articles. It is also possible to buy shelf supports to use on the peg board. You can use peg board on the inside of a door.

### Pointers on Doors

Smooth doors made without panels are easy to finish and clean.

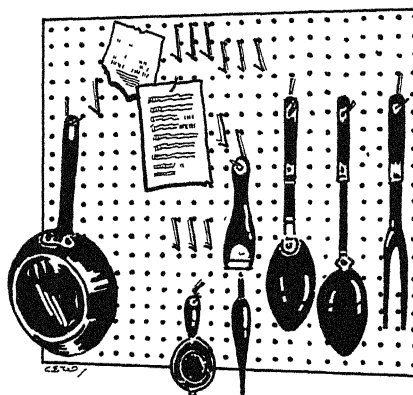
A door with a lip all around helps keep out dust, but is more expensive.

It's desirable that edges of upper cupboard doors, when open, not extend more than 2 inches beyond front edge of base cabinet.

Locate hinges so that you don't have to reach around the open door to get supplies.

Keep all door handles within your easy-to-reach area.

You may want sliding doors for some cupboards, for example, for the cupboard above a shallow counter top or work surface.



**Fig. 21 Peg board can be hung on wall or back of a door and used for a variety of items.**

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# Suggested Dimensions for Kitchen Cupboards

## Cupboard Dimensions—outside measurements

Wall cabinet—total frontage, including storage, for dinnerware .....	8' 6"—14'
Base cabinet—total frontage, including undersink cabinet and range .....	11'—13' 6"

Depth—front to back dimension:	INCHES
Floor-to-ceiling cabinet .....	15—24
Wall cabinet .....	12—14
Base cabinet .....	20—24

Distance between:	INCHES
Mixing counter and wall cabinet .....	14—18
Sink counters or drainboards and wall cabinet if counter is used for mixing .....	14—16

Note: Keep to minimum where possible. Check height of mixer if it is to be kept here.

Sink counter or drainboard and wall cabinet if neither is used for mixing .....	12—14
Sink rim and 6"-8" deep wall cabinet .....	12—14
Sink rim and 12" deep wall cabinet .....	20—25
Top of refrigerator and wall cabinet .....	6—12
Cooking surface of gas or electric range and 8" deep wall cabinets .....	18
Cooking surface of gas or electric range and 12" deep wall cabinet .....	18—24

Note: Fire Underwriters' recommendation is that when underside of combustible material is protected with asbestos millboard, 1/4 inch thick, covered with U. S. 28 gauge sheet metal, the distance from cooking surface of a gas range shall not be less than 2 feet; the protection shall extend 9 inches beyond sides of range if upper cupboard extends beyond sides of range; 18 inch distance is allowable when 28 gauge sheet metal is spaced (with noncombustible spacers) 1 inch from underside of combustible material.

Minimum length of:	INCHES
Mixing counter and base cabinet .....	36—48
Dish cabinet (usually at left of sink) .....	36—48
Counters, including drainboard, on each side of sink when this counter does not serve as mixing counter .....	32—36
Counter at side of sink if counter also serves as mixing counter .....	48
Serving counter .....	28—36
Counter next open side of refrigerator where refrig- erator is isolated from other work centers .....	15
Counter next range .....	18
Planning desk .....	28

Minimum width of:	INCHES
Passage space between two objects .....	24—30
Floor space between opposite work units .....	42—84

## Construction Allowances for Cupboards—

Thickness:	INCHES
Counter top .....	3/4—1 1/4
Sides, base, shelves .....	3/4

Space:	INCHES
Between counter top and first door or drawer .....	3/4—1 1/2
Required for counter top and installation of pull-out board .....	3-4
Toe space .....	height .....
front to back .....	2-3

Width of:	INCHES
Crosswise strip between 2 drawers or between drawer and door .....	3/4—1 1/4
Facing (up-and-down strips) at sides of cabinet doors or drawers, or between a door and stack of drawers .....	1 1/2
Doors for base cabinets .....	14—16
Doors for wall cabinets .....	12—16

Note: Preferably edge of doors of wall cabinet should not extend more than 2 inches beyond front edge of base cabinet.

## Work Surface Heights—

When standing to work:	INCHES
Mixing counter .....	32
Pastry board in use .....	33—34
Cooking surface of range .....	32
Drainboard and counter on level with rim of sink 6" deep .....	38—38 1/2
Floor of sink to floor of room .....	32—32 1/2

When sitting to work:	INCHES
Lap table or pull-out board .....	24—26

Note: The suggested heights are guides only. In general they apply for women of average height (5' 5" tall with shoes on) and for types of work to be done. The best way is to try out different jobs to determine what work heights are right for you.

If counter surfaces, sink rim, cooking top of range are on a level use 35" to 36" as the distance to the floor. Such a plan will require a rack under dishpan in sink and a pull-out board or separate table of lower-than-counter height for mixing.

## Dimensions of Drawers and Pull-out Boards

Note: Inside dimensions are given. Usual difference between inside and overall height of drawer is one inch.

	DEPTH	WIDTH	FRONT TO BACK
Silverware .....	3"	11"—19"	20"—21"
Cutlery, small mix. equip. 4"—5"	4"—5"	11"—19"	20"—21"
Dish towels .....	5"—6"	11"—19"	20"—21"
Cake .....	7"—10"	11"—19"	20"—21"
Bread .....	6"—10"	11"—19"	20"—21"
Sugar (30 lbs.) .....	7"	8 1/2"	21"
Sugar (60 lbs.) .....	10 1/2"	10 1/2"	21"
Flour (30 lbs.) .....	10"	8 1/2"	21"
Flour (60 lbs.) .....	15"	10 1/2"	21"

	DEPTH	WIDTH	FRONT TO BACK
Table linen .....	5"—7"	12"—33"	21"

## 2. Pull-out Boards

	THICKNESS	WIDTH	FRONT TO BACK
Kneading board .....	3/4"	18"—24"	20"
Cutting board .....	3/4"	14"—20"	20"
Bread board .....	3/4"	14"—15"	20"
Food chopper board .....	3/4"	9"—15"	20"
Lapboard .....	3/4"	14"—30"	20"

## READ THESE, TOO!

Floor Plan for Your Kitchen—The Ohio State University Extension Service in Agriculture and Home Economics, Extension Bulletin #279.

Look at Your Posture—The Ohio State University Extension Service in Agriculture and Home Economics, Extension Bulletin #244.

Planning the Interior of Your House—Multilith. The Ohio State University, Extension Service in Agriculture and Home Economics. Available at the office of your county home economics extension agent.